

SOV/133-59-1-15/23

The Technology of Production of Seamless Tubes from High-alloy Steels Alloyed with Boron

plasticity and structure of steels was carried out within a temperature range 950 - 1300 °C. Both steels were found to possess a comparatively high plasticity in the temperature range 975 - 1075 °C (Figures 1 and 2), higher than for steel 1Kh18N9T. However, the plasticity of the latter steel increases with increasing temperature while for EI769 and 770 it sharply decreases. In hot torsion tests (Figures 3 and 4) the differences in the plasticity of the experimental steels was more pronounced. The resistance to deformation of both steels is similar (Figure 4) but at all temperatures is higher than for 1Kh18N9T steel. In hot torsion tests the loss of plasticity of the experimental steels was less pronounced than in piercing tests. In the first case, loss of plasticity was observed at 1300 °C and in the second case at 1250 °C. On the basis of the above investigation the following piercing practice for the industrial conditions was proposed: the temperature of billets before the mill 960-980 °C, piercing temperature 1100 - 1120 °C, in addition piercing at 1140 - 1150 °C and 1180 - 1200 °C was tested. Hot rolling of tubes

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under industrial conditions is described in some detail. The results obtained are given in Table 1. The inspection of tubes after pickling indicated that for steel EI769 the proposed piercing practice (temperature 1 100 - 1 120 °C) gave the best results. A large-scale rolling of tubes from this steel yielded 90% of good-quality products. Rolling of tubes from steel EI770 was tried at four different temperature ranges (temperature before piercing: 920-980; 980-1 000; 1 020-1 040 and 1 040-1 050 °C - Table 2). Optimum results were obtained at a temperature before piercing of 950 °C. 95% of good-quality tubes was obtained. Mechanical properties of hot-rolled tubes before and after hardening are given in Table 3. Hardening of tubes was carried out from 1 100 °C. The dependence of the consumption of energy, power and heating-up of the metal during piercing on the temperature of the metal before piercing is shown in figure 6. It is concluded that:
1) boron-containing steels of austenitic class EI769 and EI770 possess a lowered temperature at the beginning of incipient melting of grain boundaries; their optimum plasticity is shifted towards lower temperatures; they

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possess high resistance to deformation and heat up intensively during piercing. The resistance to deformation of these steels is higher than of 1Kh18N9T steel which makes their piercing more difficult, particularly that with increasing temperature their plasticity decreases (unlike 1Kh18N9T steel). The developed methods of rolling these steels give quality hot-rolled tubes from EI769 steel without repairs and from EI770 steel with repairs which are usually permitted for high-alloy tubes, providing the metal is produced from fresh charges by the improved (1957) technology. The results of measurements of power consumption and heating up can be utilised for an approximate evaluation of these parameters during piercing of other austenitic steels. There are 6 figures, 3 tables and 6 Soviet references.

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S/137/61/000/002/041/046
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1961, No. 2, p. 16 # 21125

AUTHORS: Shevchenko, A. A., Alferova, N. S., Rudoy, V. S., Kutsenko, G. P.,
Nesterova, N. N., Konovalov, V. P.

TITLE: Properties and Structure of High-Manganese Austenite 45Г17Ю3
(45G17Yu3) Steel

PERIODICAL: "Byul. nauchn. tekhn. inform. Ukr. n.-i. trubn. in-t". 1959, No.
8, pp. 17-26

TEXT: The authors investigated the ductile properties of 45G17Yu3 steel composed of (in %): C 0.4 - 0.5; Mn 16 - 18; Al 3.5 Si \leq 0.6. It was found that the 45G17Yu3 steel was characterized by a sharply pronounced microchemical heterogeneity. The temperature of the beginning fusion of metal grains of the blank was 1300 - 1350°C (depending on the method of manufacture). Optimum ductility of 45G17Yu3 steel for hot deformation conditions in diagonal rolling mills corresponds to a temperature of 1200°C. The metal of the investigated 45G17Yu3 steel melts shows highly heterogeneous properties. Ductile properties of the blanks from different plants, melts and of bars from the same ingot are highly

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S/137/61/000/002/041/046
A006/A001

Properties and Structure of High-Manganese Austenite 45 17 3 (45G17Yu3) Steel

different. High ductile properties of the metal produced by melt No. 92344 at the Izhorak Plant (σ_b 58.4 kg/cm², σ_s 27.6 kg/mm², δ 30.7%, ψ 35% a_c 18.5 kg/cm², H_B 162) prove the possibility of improving the properties of the pipe blank of 45G17Yu3 steel. ✓

T. R.

Translator's note: This is the full translation of the original Russian abstract.

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S/137/61/000/002/031/046
A006/A001

Translation from Referativnyi zhurnal, Metallurgiya, 1961, No. 2, p. 36 # 22h262

AUTHORS: Alfierova, N. S., Rizin', A. I., Konovalov, V. P.

TITLE: Electron-Microscopical Investigation of Structural Changes During the Cold Deformation of Steel

PERIODICAL: "Bull. nauchno-tekhn. inform. Ukr. n.-i. trubn. in-t", 1959, No. 8 pp. 75-84

TEXT: The electron-microscopical method was employed to investigate structural changes caused by plastic deformation in steels of the austenite, ferritic and semi-ferritic class. After mechanical grinding the specimens were subjected to anode polishing in concentrated H_2NO_3 and to etching in a reactive agent composed of 75 g KCl and 5 g citric acid per 1 liter of water. After polishing and etching the specimens were deformed. Ti-films were used for the electron-microscopical examination. It was found that elementary acts of slip in semi-ferritic SM 428 (E1428) steel specimens, were originated in micro-volumes located mostly near the grain boundaries. The slip resistance of various

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S/137/51/000/002/031/046
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grain boundaries is different and depends on the difference of orientation of adjacent grains, on the condition of the boundaries and on the magnitude of the externally applied load. With the aid of the electron-microscope "streaks" were revealed on the slip lines. It is assumed that they are microscopic nuclei of cracks. -There are 7 references.

Ye. K.

Translator's note: This is the full translation of the original Russian abstract.

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18.7500, 18.5100

77614
SOV/133-6C-2-14/25

AUTHOR: Alferova, N. S. (Doctor of Technical Sciences)
TITLE: Physical Metallurgy and Heat Treatment. Relation
Between Deformability of Steel and Its Structure
PERIODICAL: Stal', 1960, Nr 2, pp 144-148 (USSR)
ABSTRACT: As a result of difficulties experienced in deforming
complex-alloy low-plasticity steels (heat resisting
and stainless), a study of their deformability
required an investigation of the effect of the
nature of the metal, its structural changes and
resistance to deformation within the temperature
range during working of metal by force of pressure.
A Study of the latter revealed three basic types
of plastic diagrams: (1) characterizing gradual
increase of plasticity with temperature increase
from 1,000 to 1,350° C; (2) with conspicuous
maximum plasticity; (3) with conspicuous minimum
plasticity due to the presence of polymorphous
transformations within the temperature range of work-

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Relation Between Deformability of Steel
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ing of metal by force of pressure. Semiferritic steel has a clearly pronounced minimum with a tendency toward the formation of two maxima of plasticity which can be explained by structural changes. In the hot state, homogeneous alloys with a solid alpha-solution structure are endowed with maximum plasticity so that purely ferritic steel has a much higher plasticity than purely austenitic steel. The author ascribes this fact to the greater speed of diffusion in the lattice of the solid alpha-solution. The high plasticity of the ferritic base is lowered as even minor amounts of austenite begin to form; on the other hand, even small amounts of highly plastic ferrite in a less plastic austenitic matrix impair its plastic properties. The formation of ferrite in an austenitic base is considered as a lower-strength but higher-plasticity inclusion in a rather rigid base. This phenomenon results in uneven

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deformation with localized overstressing which, in turn, lowers plasticity during working by force of pressure, while the disturbed homogeneity of the steel assumes a decisive role in that process. Figure 2 corroborates the correlation that exists between plasticity in the hot state and structural changes in EI428-steel (composition not given).

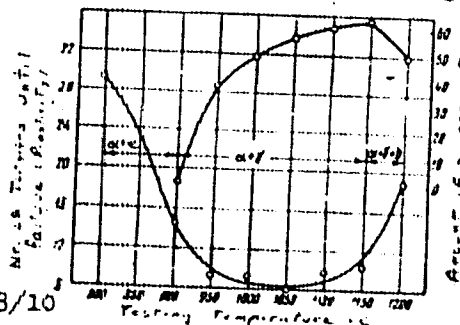


Fig. 2. Effects of temperature on plasticity (lower curve) and content of γ -phase in EI428 semiferrous steel (e = eutectic).

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In stabilizing stainless steel 1Kh18N9T (C 0.4, Mn max 1.50, Si max 1.0, Cr 17.0-20.0, Ni - 8.0-11.0, Ti 0.8%) with Ti and Nb, the author found a drastic increase of plasticity at temperatures raised to 1,200° C accompanied by a decreased amount of the alpha-phase (with Ti) and a slow increase in plasticity at elevated temperatures with minor changes in the ferrite content with Nb; however, above 1,200° C a drastic increase in the amount of alpha-phase was observed in both cases accompanied by a sharp decrease in plasticity. The character of distribution and the form of excess structural constituents also affect plasticity. In rolled austenitic steel the alpha-phase is usually present in the form of elongated inclusions along the grain boundaries which have an adverse effect on plastic deformation. Structural changes caused by an intensive increase in ferrite of changed form and distribution result in a conspicuous drop of plasticity during hot deformation. This limits the use of elevated rolling temperatures

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which lower resistance to deformation. The decrease of plasticity in raising temperature beyond the critical point is due to the fact that this temperature approaches the grain boundary fusion temperatures which are lower for austenitic steels. Alloying drastically decreases plasticity of solid γ -solution. Complete loss of plasticity occurs in the zone of heating which is close to the solidus temperature; the liquid phase is still absent, but processes develop along the grain boundaries which lower resistance to tearing and lead to brittle intercrystalline fracture during hot deformation. Brittleness in the hot state for various types of steel occurs in about the same zone of similar relative temperatures (see Fig. 5) but at different absolute values which depend on the solidus point of a given steel. Similar relative temperatures are determined by $T_t:T_m$ ratio, where T_t = test temperature, T_m = melting point ($^{\circ}\text{K}$).

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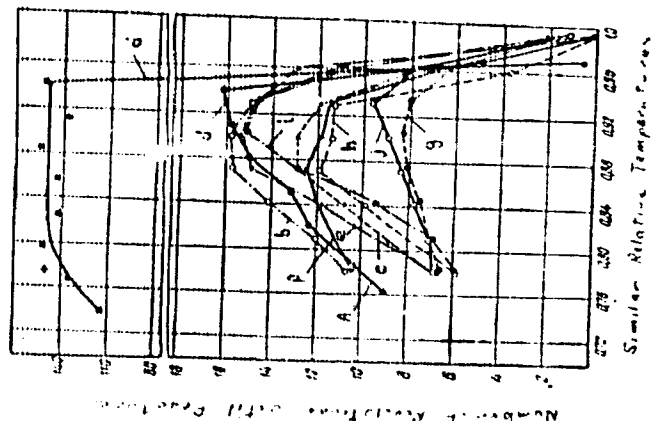


Fig. 5

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Caption to Fig. 5 on Card 7/10

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Caption to Fig. 5.

Fig. 5. Effect of hot steel plasticity on similar relative temperatures. (a) Kh25T-steel; stainless steels: (b) Kh18N9T with $\alpha = 1.5$; (c) same, with $\alpha = 3$; (d) 1Kh14N14V2M; (e) Kh18N12M2T; (f) Kh18N11B with $\alpha = 0$; (g) same, with $\alpha = 3$; (h) Kh18N12M3T; (i) Kh23N18; (j) Kh23N13 (composition of steels not given).

An important structural characteristic is the temperature at which fusion of the grain boundaries begins. The lower that temperature, the more limited the possibility of working by forces of pressure at elevated temperatures. Deformation resistance of various types of steel as it depends on temperature is shown in Fig. 6.

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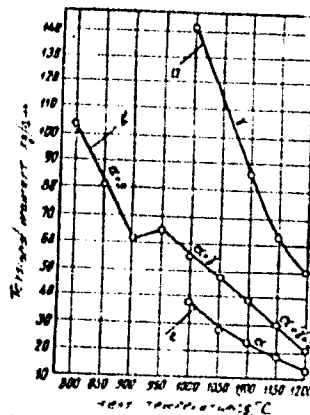


Fig. 6. Effect of temperatures on the deformation resistance of various steels. (a) Austenitic 1Kh18N9T-steel; (v) semiferrous EI428-steel; (c) ferritic Kh25T-steel.

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Relation Between Deformability of Steel

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The author emphasizes deformability depends not only on the plasticity of an alloy but also on its resistance to deformation. It is concluded that the main difficulty in the working of high-alloy steels is caused by lowered plastic deformability of austenitic stainless steel in the hot state and by the brittleness of oxidation-resisting ferritic semiferritic steels in the cold state. Therefore, for austenitic steel hot rolling rates are limited mainly by their properties at elevated temperatures and to a certain extent without the need of considering cold working conditions. For oxidation resisting ferritic and semiferritic steels these rates should take into consideration plasticity in the cold state inasmuch as the effectiveness of heat treatment is fully determined for these steels by the preceding conditions of hot deformation. There are 6 figures; and 9 references, 8 Soviet, 1 U.S. The U.S. reference is: Clark and Russ, Metals Technology, 1945, Vol 12, Nr 8, p 1.

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Physical Metallurgy and Heat Treatment
Relation Between Deformability of Steel

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SOV/133-60-2-14/25

ASSOCIATION: Ukrainian Scientific Research Tube Institute (Ukrain-
sky nauchno-issledovatel'skiy trubnyy institut)

Card 10/10

ALPHEROVA, N.S.; RIZOL', A.I.; KONOVALOV, V.P.

Preparing impressions for electron microscopic examination. Zav.
lab. 26 no.3:312-313 '60. (MIRA 13:6)

1. Ukrainskiy nauchno-issledovatel'skiy trubnyy institut.
(Steel--Metallography) (Electron microscopy)

AL'FEROVA, N. S.

[illegible]

21642

S/137/61/000/003/061/069
A006/A101

~~1413, 1454, also 145, 1~~
AUTHORS: Alferova, N. S., and Konovalov, V. P.

TITLE: Recrystallization of heat resistant steels under conditions of hot deformation

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 3, 1961, 36, abstract 3Zh227 ("Tr. Ukr. n.-i. trubn. in-ta", no. 1, 1959, 218-240)

TEXT: The authors investigated grain growth in X25T (Kh25T) and 3Mn28 (EI428) steel during hot rolling and subsequent heat treatment at 850°C. For the precise determination of the critical degree of reduction, the method of rolling tapered specimens was employed. The deformation range was 0 - 75%; the hot rolling speed was 0.5 m/sec. For Kh25T steel hot rolling temperatures from 700 to 1,250°C and for EI428 steel temperature from 700 to 1,150°C were investigated in intervals of every 50 degrees. It was found that hot rolling in the aforementioned range did not entail excessive grain growth. However, in the case of subsequent heat treatment at 850°C zones of critical deformation were revealed causing strong growth of the grains. This predetermines a further brittle state of the steel during cold treatment. The authors present three-dimensional diagrams of

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Recrystallization of heat resistant steels ...

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recrystallization at 850°C, characterizing grain growth depending on the degree and temperature of preceding hot rolling. It was established that for Kh25T steel of the ferrite class, an increase of hot rolling temperature up to > 900°C considerably enlarges the zone of critical deformation. This entails excessive grain growth during the process of subsequent recrystallization, even under conditions of higher degrees of deformation. For the purpose of reducing the proneness to brittle failure during subsequent cold treatment, the following hot rolling conditions are recommended: initial hot rolling temperature < 1,080°C, final hot rolling temperature - 900°C and less. It is shown that for EI428 steel of the semi-ferrite class, the use of higher hot rolling temperatures is possible (1,000 - 1,150°C) which assure a fine grained structure over the whole deformation range during subsequent heat treatment at 850°C. This is due to the phase transformation and recrystallization process occurring in the steel. There are 18 references.

A. B.

[Abstractor's note: Complete translation.]

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S/137/62/000/003/094/191
A006/A101

AUTHORS: Alferova, N.S.; Ostrin, G.Ya.

TITLE: The fundamentals of warm rolling of pipes and outlooks of its development

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 30, abstract 3D169
(V sb. "Proiz-vo trub", no. 4, Khar'kov, Metallurgizdat, 1961, 121 - 127)

TEXT: During warm rolling it is possible to use high degrees of reduction without intermediate annealing, and to obtain high-strength properties of the metal. The authors analyze problems in the latest development of warm rolling. Grade 1X18-9T (1Kh18N9T) steel was investigated. The optimum temperature of warm rolling 1Kh18N9T steel can be assumed to be 300°C. Preheating of the pipes prior to rolling decreases sharply the metal heating in the deformation seat on account of the fact that the deformation resistance of 1Kh18N9T steel decreases with higher temperature. In such a manner the abrupt decrease in the value of the modulus of hardening of 1Kh18N9T steel at warm rolling temperatures and the new combination of strength and ductility characteristics of warm-rolled metal, are

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characterized by higher strength together with high ductility; reserves are obtained for a further increase of the efficiency of mills by raising the deformation degree of the metal per pass; it is also possible, in some cases, to deliver pipes without heat treatment.

N. Yudina

[Abstracter's note: Complete translation]

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S/137/62/000/004/112/201
A052/A101

AUTHORS: Alferova, N. S., Rizol', A. I., Kononov, V. P.

TITLE: A possible structural reason for a different deformability of austenitic and ferritic steels in a cold state

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 51, abstract 4I304
(V sb. "Proiz-vo trub", no. 4, Khar'kov, Metallurgizdat, 1961, 128 - 133)

TEXT: An assumption is expressed to the effect that a lower ability of ferritic steels for plastic deformation in a cold state, as compared with austenitic ones, is conditioned by the presence in ferritic steels of fewer planes along which shear is possible. A study of different stages of deformation of austenitic and ferritic steel samples entitled an assumption on the possible reasons for different ductility of these steels in a cold state. In austenitic steel an external load is distributed uniformly over the deformed metal volume within the grain boundaries, in ferritic steel the load is obviously localized in individual sections of the deformed metal volume. As a result of this the brittle crack de-

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velopment is inhibited in austenitic steel which secures its better deformability in a cold state.

T. Romyantseva

[Abstractor's note: Complete translation]

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ALFEROVA, H.S., doktor tekhn. nauk; BEJUSHEYN, M.L., kand. tekhn. nauk; BLANTIER, M.Ye., doktor tekhn. nauk; BOKSHEYN, S.Z., doktor tekhn.nauk; VINOGRAD, M.I., kand. tekhn.nauk; GAMOV, M.I., inzh.; GELLER, Yu.A., doktor tekhn. nauk; GOTLIB, L.I., kand. tekhn. nauk; GUDINA, Yu.V., doktor tekhn.nauk; GRIGOROVICH, V.K., kand. tekhn. nauk; GULYAYEV, B.B., doktor tekhn. nauk; DOVGALEVSKIY, Ya.M., kand. tekhn. nauk; DUDOVTSSEV, P.A., kand. tekhn. nauk [deceased]; KIDIN, I.N., doktor tekhn. nauk; LEYKIN, I.M., kand. tekhn. nauk; LIVSHITS, B.G., doktor tekhn. nauk; LIVSHITS, L.S., kand. tekhn. nauk; L'VOV, M.A., kand. tekhn. nauk; MEYERSON, G.A., doktor tekhn. nauk; MINKOVICH, A.N., kand. tekhn. nauk; NATANSON, A.K., kand. tekhn. nauk; NAKHIMOV, A.N., inzh.; NAKHIMOV, D.M., kand. tekhn. nauk; OSTRIN, G.Ya., inzh.; PANASENKO, P.L., inzh.; SOLODIKHIN, A.G., kand. tekhn.nauk; KHRUSHIN, F.F., kand. tekhn. nauk; CHERNASHKIN, V.G., kand. tekhn. nauk; YUDIN, A.A., kand. fiz.-mat. nauk; YANKOVSKIY, V.M., kand. tekhn. nauk; RAKHSHTADT, A.G., red.; GORDON, L.M., red. izd-va; VAYNSHEYN, Ye.B., tekhn. red.

(Continued on next card)

ALFEROVA, N.S.--- (continued) Card 2.

[Metallography and the heat treatment of steel]Metallo-
vedenie i termicheskaya obrabotka stali; spravochnik.
Ind.2., perer. i dop. Pod red. M.L.Bernshteyna i A.G.
Rakhshtadta. Moskva, Metallurgizdat. Vol.2. 1962.
1656 p.

(NIRA 15:10)

(Steel--Metallography)
(Steel--Heat treatment)

S/793/62/000/000/003/006
A004/A126

AUTHORS: Alfandova, N.S., Doctor of Technical Sciences, Semenov, O.A., Candidate of Technical Sciences, Ostrin, O.Ya., Frolov, V.F., - Engineers

TITLE: The fundamentals of hot tube rolling and prospects of its development

SOURCE: Teoriya prokatki; materialy konferentsii po teoreticheskim voprosam prokatki. Moscow, Metallurgizdat, 1962, 431 - 439

TEXT: Tests were carried out on the KMT-75 (KhPT-75) mill in rolling tubes of 1X18H9T (1Kh18N9T) steel to determine the effect of the blank preheating temperature on the rolling stress. The following test results were obtained: 1) Preheating the blanks up to 300 - 400 C reduced the rolling stress by a factor of approximately 2; 2) hot rolling of stainless steel tubes can be effected in the same satisfactory manner as the rolling of carbon steel tubes; 3) the capacity of the KhPT mill in hot rolling 1Kh18N9T steel tubes can be raised not only by increasing the feed, but also by a considerable increase in the total reduction per pass; 4) hot rolling of tubes can be performed on the KhPT-75 mill of the

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The fundamentals of hot tube rolling and

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A004/A126

existing design with a few modifications; 5) a mixture of water glass and silver graphite can be recommended as lubricant in hot rolling at a temperature of up to 600 C; the tube surface obtained with this lubricant will comply with the requirements of GOST (GOST) 5543-50; 6) the same methods that are used in cold rolling on the KhMT mills can be applied to calculate the ridge profile of the grooves for hot rolling processes. In their conclusion the authors enumerate the prospects of development in hot rolling of tubes. There are 5 figures.

ASSOCIATION: UkrNITI

Card 2/2

S/659/62/008/000/023/028
1048/1248

AUTHORS: Alferova, N.S., Rizol', A.I., Konovalov, V.P., and
Alpatov, Yu.N.

TITLE: An electron-microscope study of the structure of tough
fracture of steel 1Kh18N9T

SOURCE: Akademiya nauk SSSR. Institut metallurgii, Issledovaniya
po zharoprochnym splavam. v.8. 1962. 172-177

TEXT: The tough fracture of austenitic steel 1Kh18N9T was studied
under the electron microscope (magnification x5000). Specimens with
a fine grain structure prepared by hot drawing (at 1100°C) followed
by heating for 2 hrs. at 950°C were quenched in water; coarse grain
structure was obtained by hot drawing at 1100°C, further drawing at
1250°C, to a deformation of 3.6%, holding at 1250° for 2 hrs., and
quenching in water. The impact strengths of the fine- and coarse-
grain specimens were 17.3-18.8 and 20.2-22.5 kg./sq.cm. respectively.
The photomicrographs of the fracture were taken by the Ti-replica
technique. Under identical conditions, the facets on the fracture

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1048/1248

An electron-microscope study...

surface of the coarse-grain specimens were much larger than those on the finer grain ones. The facets on specimens fractured under static loads were considerably smaller than the ones on impact-fractured specimens. The authors reject the theory according to which tough fracture starts and proceeds along inclusions and precipitates, and discuss the phenomena taking place during fracture in the light of the dislocations theory. There are 5 figures and 1 table. ✓

Card 2/2

ACCESSION NR: AR4018333

8/0137/64/000/001/1063/1064

SOURCE: RZh. Metallurgiya, Abs. 11395

AUTHOR: Alferova, N. S.; Rizol', A. I.; Konovalov, V. P.; Alpatov, Ye. N.

TITLE: The use of the theory of dislocations for explaining the structure of gliding fracture of 1Kh18N9T steel

CITED SOURCE: Sb. Prois-vo trub. Vyyp. 9. M., Metallurgizdat, 1963, 93-98

TOPIC TAGS: 1Kh18N9T steel, impact bend test, static testing, electron microscope analysis, gliding fracture

TRANSLATION: With the use of Ti samples, electron microscope study of fractures in samples of 1Kh18N9T destroyed by impact and static bending was conducted. In destruction by impact bending, the sizes of the edge faces ("cuplets") in the fracture of large-grained samples were considerably larger than on the fracture surface of fine-grained samples. In destruction by static bending, the edge faces on the fracture of the large-grained samples were considerably smaller than those which were observed in the impact destruction of large-grained samples. It is proposed, that in impact destruction, as a result of the rapidly increasing loads,

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plastic deformation in the topmost parts of the cracks that are formed becomes more difficult than during slow destruction by a static load. With impact loading, because of a lack of time, the diffusion of the "cloud" falls short of completion. The "cloud" hampers the movement of the dislocations. The larger size of the edge faces on the fractures of the large-grained sample as compared with the fine-grained samples when destroyed on an impact machine is determined by the fact that the formation of cracks in the large-grained sample with the application of an external load can take place with lower values of the critical shear strain than in the fine-grained sample. The size of the edge faces can serve as an indicator of the nature of occurrence of plastic deformation, which precedes failure.

SUB CODE: MM

ENCL:

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ACCESSION NR: AR4018343

8/0137/64/000/001/1121/1121

SOURCE: RZh. Metallurgiya, Abs. 11784

AUTHOR: Alferova, N. S.; Devterov, V. M.; Fesenko, G. M.

TITLE: Heat-treatment of EI852 steel in the production of pipe

CITED SOURCE: Sb. Proiz-vo trub. Vy*p. 9, M., Metallurgizdat, 1963, 106-113

TOPIC TAGS: Steel processing, pipe-rolling, EI852 steel, heat treatment, structural conversion, steel hardness

TRANSLATION: For the purpose of determining the optimum schedule of heat-treating EI852 steel composed (in%) of C 0.10-0.15; Si 1.4-2.1; Cr 12-14, Mo 1.2-2.0, Mn less than 0.6, Ni less than 0.5, which is used extensively in the production of pipe, structural conversions and changes in the hardness of hot and cold-rolled pipe of this steel with hardening at 800-1,200° were studied. The critical point of EI852 steel, beginning with which, during heating, there takes place a partial conversion of ferrite-carbide mixture into austenite, equal to approximately 925 degrees. To obtain satisfactory plasticity in longitudinal and lateral directions, to remove percussion marks of hot-rolled Me and to form the structure of grainy

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ACCESSION NR: AR4018343

perlite in the sections of products of conversion of austenite, for hot-rolled pipe of K1852 steel, it is recommended to use double heat-treatment according to the following schedule: heating from 1,000-1,050 degrees, with subsequent drawing at 800-820 degrees. It is recommended to use drawing at 800-830 degrees with a time interval of more than one hour as a form of intermediate heat treatment for cold-rolled pipe.

SUB CODE: IE, NM

ENCL: 00

Card 2/2

ACCESSION NR: AR4041591

S/0137/64/000/005/D036/D036

SOURCE: Ref. zh. Metallurgiya, Abs. 5D214

AUTHOR: Alferova, N. S.

TITLE: Changes of microstructure and properties of steel Kh18Ni9T in area of deformation during cold rolling of pipes

CITED SOURCE: Sb. Proiz-vo trub. Vyyp. 10. M., Metallurgizdat, 1963, 95-100

TOPIC TAGS: cold rolling, pipe production, cold deformation, steel micro-structure, steel property/Kh18Ni9T steel

TRANSLATION: Investigations were conducted on pipes of steel Kh18Ni9T, rolled on method of cold deformation on mill of type KhPT-75 by two variants: with cooling of metal in area of deformation using emulsion, and without cooling. Both variants of rolling are used in industrial production of thin-walled stainless pipes. Selected conditions of rolling are typical for studied steel.

Card 1/3

ACCESSION NR: AR4041591

Course	83 x 5 - 57 x 2.7 (-3.0 mm)
General coefficient of drawing	2.4 - 2.67
Magnitude of supply of billet for one double movement of stand of mill	10 - 11 mm
Number of double movements of stand of mill in 1 min	60

Results of investigation allow us to make conclusions about the fact that from the point of view of essence of processes proceeding in steel during deformation, cold rolling of pipes of steel Kh18Ni10T without cooling of area of deformation in principle does not differ from rolling with cooling, ensuring only small decrease of hardening of metal. Character of hardening of steel in the most critical (in this respect) zone of reduction is practically identical in both variants of rolling. In connection with this, cold rolling of pipes without cooling does not ensure possibility of essential lowering of hardening of metal and resistance

Card 2/3

ACCESSION NR: AR4041591

of deformation and, consequently, cannot be assumed as the basis of increase of productivity of process. Furthermore, effect of self-heating of metal in area of deformation is not stable and depends on nature of steel, course of rolling, magnitude of supply, etc. It is necessary also to emphasize that intensity of hardening and significant heterogeneity of distribution of deformation between grains of metal are, apparently, basic factors limiting the technological conditions of deformation of stainless steel Kh18Ni9Ti during cold rolling of pipes.

SUB CODE: MM

ENCL: 00

Card 3/3

"APPROVED FOR RELEASE: 09/24/2001

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"APPROVED FOR RELEASE: 09/24/2001

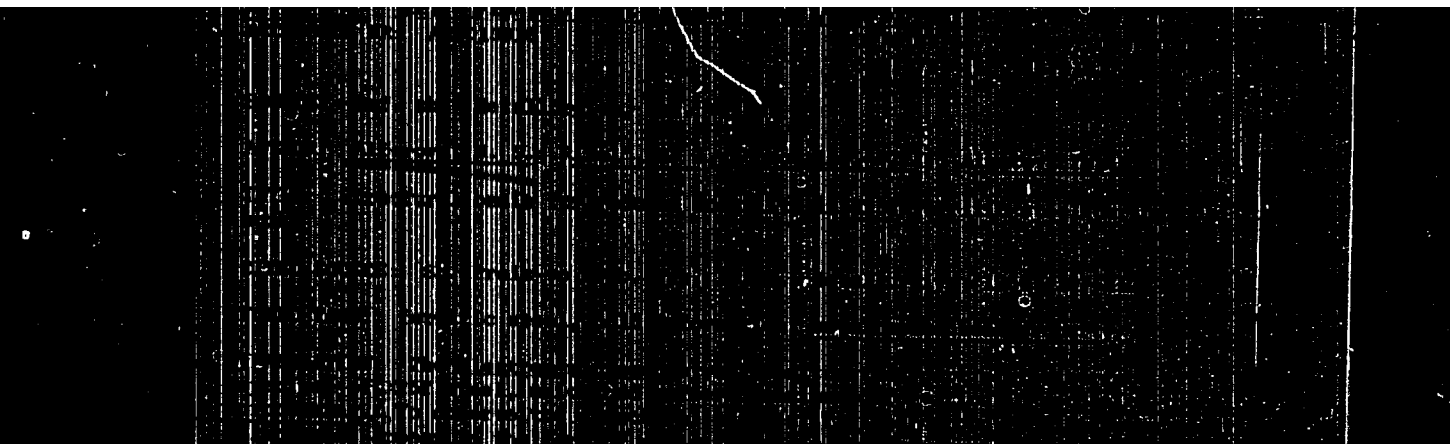
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"APPROVED FOR RELEASE: 09/24/2001

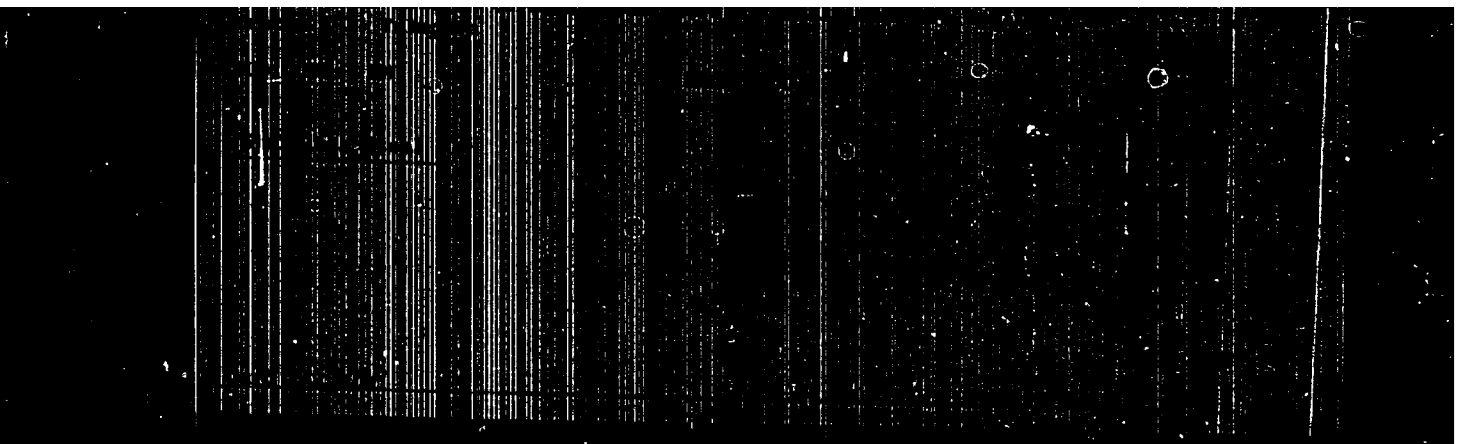
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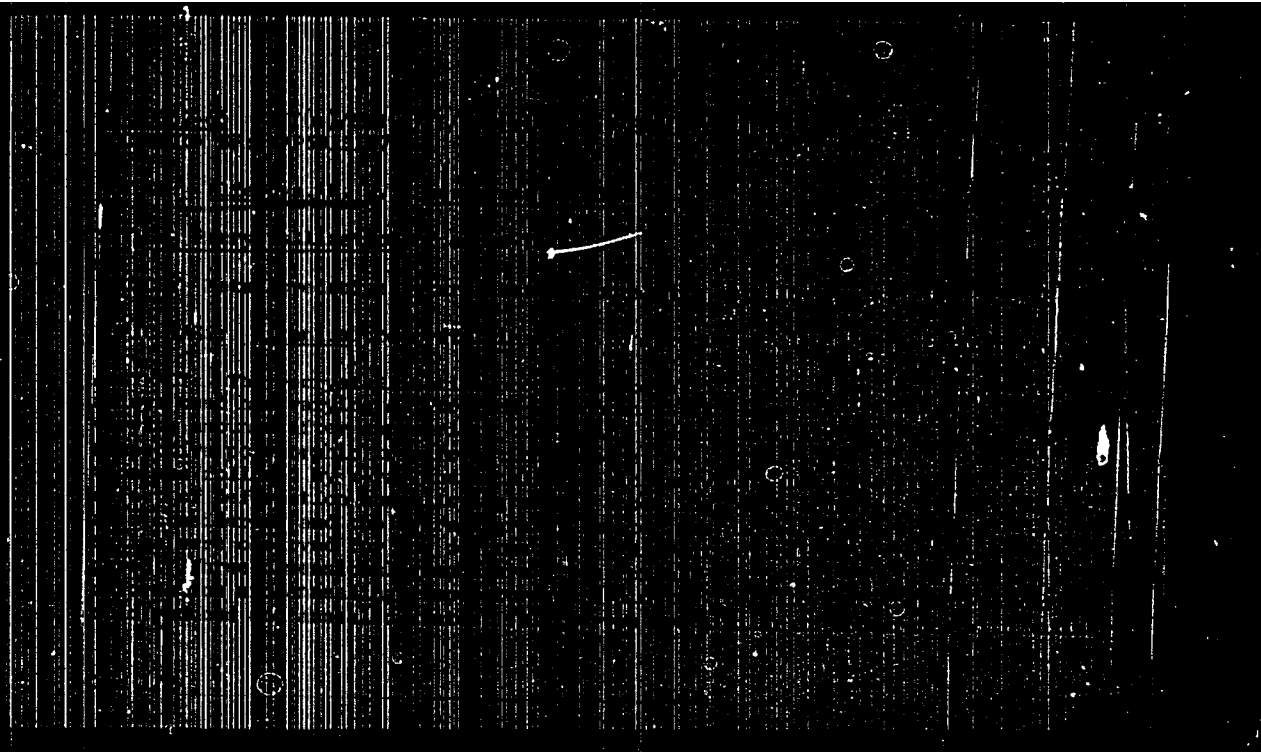
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APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000101020018-8"

L 5177-66

ACC NR APS027099

of polymorphic transformation. Strips of the investigated alloys were subjected to single and multiple reduction by cold rolling in a four-high mill at the fixed rate of 0.96 m/sec, with deformation resistance being determined during the rolling. Commercial Ti was found to display the highest plasticity: its single reduction reached 75% and multiple reduction, 90%, whereas the maximum reduction of α -alloys of Ti was much lower, amounting to 35, 50, 40, and 30%, respectively for the alloys TiAl2Zr2.5, TiAl2.5, TiAl5, and TiAl5Sn3. As the Al content increases, deformability during cold rolling decreases markedly. Ti also somewhat reduces the deformability (for TiAl5Sn3 alloy, as compared with TiAl5 alloy). Zirconium, on the other hand, has no effect on deformability. As for recrystallization in the investigated alloy, it was determined for strips with equiaxial grain structure of the α -phase, by means of metallographic and microstructural examinations. It was found that alloying Ti with Al leads to a rise in the recrystallization temperature of the alloys and in the temperature range of primary recrystallization, displaces the critical point of deformation in the direction of higher values of reduction by rolling, and retards cumulative recrystallization. Alloying Ti with extra amounts of Zr and Sn does not appreciably affect these features of the recrystallization process. Orig. art. has: 2 figures, 1 table.

ASSOCIATION: Vsesoyuzny nauchno-issledovatel'skiy trubnyy institut (All-Union

Card 2/3

1 5177-66		
ACC NO: AP027099		
Scientific Research Typing Institute)		
SUBMITTED: 21 Jan 64	ENCL: 00	SUB CODE: 1st, 83
NO REF SOV: 002	OTHER: 000	
Card 3/3		

"APPROVED FOR RELEASE: 09/24/2001

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APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000101020018-8"

L 20968-56 EWT(n)/EWP(w)/SHA(d)/T/EMP(t) IJP(c) JP

ACCESSION NR: APS025136

UR/0133/65/000/010/0947/0949
621.78

AUTHOR: Alferov, N. S. (Doctor of technical sciences); Shevchenko, L. N. (Engineer)

TITLE: Effect of piercing temperature and heat treatment on the tendency of EI852 steel toward brittle fracture

SOURCE: Stal', no. 10, 1965, 947-949

TOPIC TAGS: pipe, EI852 steel, metal heat treatment, brittleness, material fracture, hot rolling, impact strength

ABSTRACT: The deformability of pipes of EI852 chromium-molybdenum steel was unsatisfactory in the cold state, so the authors studied the effect of the temperature conditions of hot deformation and subsequent heat treatment on the properties of the metal of hot-rolled pipes. The optimum piercing temperature was found to be 1200°C. A lowering of the piercing temperature decreases the tendency of the metal toward brittle fracture in the cold state, but this results in a decline of the properties of the pipe surface. Heat treatment (high tempering at 850°C and particularly quenching from 1050°C with the same tempering) combined with hot deformation further

Card 1/2

L 20968-56

ACCESSION NR: AP5025136

decreases the tendency of the steel toward brittle fracture in the cold state; under the influence of the deformation and heat treatment, EI852 steel changes from a brittle to a viscous state at room temperature. Orig. art. has: 6 figures.

ASSOCIATION: Vsesoyuznyy n.-i. nauchnyy institut (All-Union Scientific Research Pipe Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: NN

NO REF SQV: 000

OTHER: 000

Card 2/2 7/1/5

L 04664-67 EAF(k)/ENT(m)/T/ENT(t)/BTI IJF(c) JU/HW/JG

ACC NR: AP6007115

SOURCE CODE: UR/0129/66/000/002/0050/0051

AUTHORS: Alferova, N. S.; Shevchenko, R. I.; Kutsygina, T. V. 47

ORG: All-Union Scientific Research Institute for Pipes (Vsesoyuznyy nauchno-issledovatel'skiy trubnyy institut) 46

TITLE: Cold deformation and annealing of alloy VT15 46

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 2, 1966, 50-51

TOPIC TAGS: chromium alloy, molybdenum containing alloy, alloy, aluminum containing alloy / VT15 alloy

ABSTRACT: The cold deformation and the effect of thermal treatment on the structure and hardness of the cold-deformed alloy VT15 (3% Al, 6.5% Mo, and 10.7% Cr) were studied. The microstructure of the alloy was determined as a function of the thermal treatment (annealing followed by quenching in water followed by a second annealing stage). The mechanical properties of the alloy are compared with the corresponding properties of steel Kh18Ni9Ti, and the experimental results are shown graphically (see Fig. 1). It was found that an increase in the preliminary degree of deformation leads to an increase in the maximum hardness of the alloy and activates the aging processes in the alloy. A further increase in the temperature leads to a decrease in the hardness of the metal.

Card 1/2

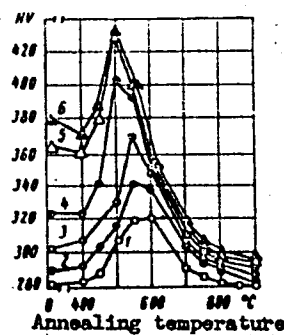
UDC: 669.295'71'28'26:620.162.2

L 04664-67

ACC NR:

AP6007115

Fig. 1. Effect of the annealing temperature on the hardness of alloy VT15 for different degrees of rolling:
1 - 0%; 2 - 5%; 3 - 20%; 4 - 40%;
5 - 70%; 6 - 90%.



kh

Orig. art. has: 3 graphs.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001

13/

Titanium 27

Card 2/2

L 22601-66		EP(w)/SHA(d)/T/EP(t)/EP(t)		JD/HW
ACC NR: A-6010135		SOURCE CODE: UR/0133/66/000/003/0248/0250		
AUTHOR: Rudor, V. S. (Candidate of technical sciences); Alferova, N. S. (Doctor of technical sciences); Milnarich, N. A. (Engineer); Bogdanova, T. M. (Engineer); Sadokov, G. M. (Engineer); Mel'nichenko, I. P. (Engineer); Kirvalidze, N. S. (Engineer); Kurilenko, V. Kh. (Engineer); Oshchensko, M. P. (Engineer)				
ORG: none				
TITLE: Production of tubes from OKh20N5T stainless steel				
SOURCE: Stal', no. 3, 1966, 248-250				
TOPIC TAGS: stainless steel, low nickel steel, stainless steel tube, tube rolling, hot rolling / OKh20N5T steel, EP299 steel				
ABSTRACT: Technological properties of EP299 (OKh20N5T) stainless steel and the conditions for tube rolling this steel have been studied. The steel, annealed at 1050C for 15 min and air cooled, has a tensile strength of 101 kg/mm ² , a yield strength of 34 kg/mm ² , an elongation of 40.6%, and a reduction of area of 62.1%. Corresponding figures for test temperature at 350C are 52 kg/mm ² , 39.0% and 69.7%. The steel is very sensitive to the cooling rate: slow cooling sharply reduces the elongation and impact strength. The plasticity of EP299 steel does not change in the 1100—1250C range, but increases sharply with further increases in temperature and rapidly increasing content of α -phase. Up to 1250C the plasticity of EP299 steel is much				
Card 1/2		UDC: 621.744.35		

1. 20601-66
ACC NR. AF6010136

lower, but at 1275C and over much higher, than that of KH18N10T and EI-811 steels. The hot working of EP299 steel must be done at temperatures over 1250C. The steel, however, has a tendency to stick to guide bars. With guide bars made from G18 steel (1.4--1.8% C, 16--19% Mn) and piercing done at 1275--1300C, the tendency to stick was greatly reduced. The mechanical properties and surface quality of hot-rolled and heat-treated EP299 tubes were satisfactory, and the tubes were suitable for cold rolling and cold drawing. Orig. art. has: 2 figures. [A2]

SUB CODE: 11, 13/ SUMM DATE: none/ ORIG REF: 003/ ATD PRESS: 4225

Card 2/2

I 23312-66		EST(d)/ENT(m)/EMP(v)/EMP(t)/EMP(f)/EMP(h)/EMP(l)		ID/HW
ACC NR: APS011200		SOURCE CODE: UR/0413/66/000/006/0032/0032		
INVENTOR: Semenov, O. A.; Alfaro, M. S.; Yankovskiy, Y. M.; Kolesnik, B. P.; Ostrik, G. Ye.; Plyusakovskiy, O. A.; Khvyeta, O. W.; Gleyberg, A. Z.; Chemerinskaya, R. I.; Gomelauri, M. G.; Blanter, M. Ye.; Sharadzenidze, S. A.; Soladze, O. H.; Gol'denberg, A. A.; Tsaratali, P. A.; Ubiriya, A. Ye. Separteladze, O. G.				
ORC: none				
TITLE: Method of manufacturing strengthened tubes, Class 18, No. 179786 [announced by the Ukrainian Scientific Research Institute of Pipes (Ukrainskiy nauchno-issledovatel'skiy trubnyy institut)]				
SOURCE: Izobreteniya, promyshlennyye obrastay, tovarnyye znaki, no. 6, 1966, 32				
TOPIC TAGS: tube manufacturing, tube rolling, tube strengthening, tube heat treatment				
ABSTRACT: This Author Certificate introduces a method of strengthening hot-rolled tubes. According to this method, the hot-rolled tube is quenched immediately after it leaves the first rolling mill, and then is sized or reduced at a tempering temperature. [ND]				
SUB CODE: 13/ SUBM DATE: 12Nov63/ ATD PRESS: 4230				
Card: 1/1		DOC: 621.78.08.621.771.2		

ACC NR: AP6031514	SOURCE CODE: UR/0383/66/000/004/0033/0035
AUTHOR: Alferova, N. B. (Doctor of technical sciences, Professor); Shevchenko, L. N.	
ORG: none	
TITLE: Improving the formability of martensitic-ferritic steel tubes by high temperature thermomechanical treatment	
SOURCE: Metallurgicheskaya i gornorudnaya promyshlennost', no. 4, 1966, 33-35	
TOPIC TAGS: metal tube, martensitic steel, martensitic ferritic steel tube , steel tube , steel tube thermo-mechanical treatment, high temperature thermomechanical treatment/1Kh13S2M2 steel, Kh17 steel	
ABSTRACT: Martensitic-ferritic steels such as 1Kh13S2M2 or Kh17 are promising tube materials. However, their cold brittleness complicates their cold rolling and cold drawing. High-temperature thermomechanical treatment (HTMT) was found to reduce considerably the cold brittleness, which was confirmed by production scale experiments at the Yuzhnorubnyy plant. Tube billets were pierced at 1200C and the shells were rolled at 1050C and water cooled immediately, 0.4 sec, after rolling. This treatment increased the tensile strength to 136 kg/mm ² compared to 112 kg/mm ² after air cooling, and lowered the Nil ductility transition temperature by 40C. All tubes subjected to HTMT were cold rolled without difficulties, while those produced by conventional methods frequently cracked. (WW)	
SUB CODE: 11/ SUBM DATE: none/ Card 1/1	UDC: 621.774.35:620.186.5

ALFEROVA, N. V.

Dissertation: "Application of the Method of Major Coordinates to the Calculation and Modeling of Torsional Vibrations of Ship Installations." Cand Tech Sci, Leningrad Inst of Water Transport Engineers, Leningrad, 1954. Referativnyi Zhurnal--Mekhanika, Moscow, Jul 54.

SC: SUK No. 356, 25 Jan 1955

124-57-1-1131

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 1, p 157 (USSR)

AUTHOR: Allerova, N. V.

TITLE: Determination of the Frequencies and Relative Amplitudes of the Free Torsional Vibrations of Systems by Means of Mechanical Models (Opredeleniye chastot i otnositel'nykh amplitud pri svobodnykh krutit'nykh kolebaniyakh sistem s pomoshchyu mekhanicheskoy modeli)

PERIODICAL: Tr. Tsent. n. -i. in-ta mor. flota, 1955, Vol 1, Nr 2, pp 89-99

ABSTRACT: A description of mechanical models intended for the investigation of torsional vibrations in naval driveshaft assemblies. The model consists of an arrangement of bars rotating in a single plane and connected to one another by means of cylindrical coil springs. The moments of inertia and the stiffness values of the springs are selected according to the given parameters of the system under examination. Resonance of the model is produced by means of a crank-and-connecting-rod mechanism. The frequency of the vibrations is determined from a counting device. The amplitude of the vibrations is recorded on paper by means of a high-voltage induction spark.

A. F. Minayev

Card 1/1

1. Subject--Vibration--Model
--Test results

ALFIMOVA, N.V., kand. tekhn. nauk

Reverse reduction gears for the D50 and D100 marine engines.
Trudy TSHIMP no.20:70-77 '58. (MIRA 12:1)
(Marine engines) (Gearing)

ISTOMIN, Pavel Alekseyevich, Trinomial ustanovitye Alga, A., 1961,
kand. tekhn. nauk; NEBEST GU, V.I., doct. tekhn. nauk,
prof., rets. rets.; NARDEKO, G.K., kand. tekhn. nauk,
doct., rets.; KHASOVSKIY, O.G., nauchn. red.;
GOLUBEVA, N.F., red.; SHAIKAEV, Ya.I., red.

[Dynamics of marine internal convection on the Pacific
sukoykh, svyazatelei vnutrennego sgeraniya. Izvestiya, in-
dostroyaniya, 1964. 227 p. (1964)]

ALFEROVA, N.V., kand. tekhn. nauk.

Basic designs for reverse reduction gears used in marine engines.
Sudostroyeniye 24 no.10:62-64 O '58. (MIRA 11:12)
(Marine engines) (Gearing)

ALPINOVA, N.V.

Measuring torque with induction torsion meters. Ism.tekh. no.2:
11-12 F 60. (MIRA 13:6)
(Torque--Measurement)

ALFEROVA, N.V., kand.tekhn.nauk

Some characteristics of torsion meters for use on ships. Trudy
TSNIIM 8 no.42:58-63 '62. (MIRA 16:1)
(Torsion—Measurement) (Ships—Equipment and supplies)
(Electricity on ships)

YEVREINOV, I.V., kand.tekhn.nauk, rukovoditel' raboty; ALFEROVA, N.V.,
kand.tekhn.nauk; GOL'DENFON, A.K., kand.tekhn.nauk; ZINCHENKO, V.I.,
kand.tekhn.nauk; KORCHAGIN, M.I., kand.tekhn.nauk; PANOV, V.A.,
kand.tekhn.nauk; URBANOVICH, A.K., kand.tekhn.nauk; FOMENKO, Yu.I.,
kand.tekhn.nauk; YAKOVSKIY, F.V., kand.tekhn.nauk; LISIN, V.N., inzh.;
LYUTOV, I.L., inzh.; MEYELOV, A.N., inzh.; STRUMPE, P.I., kand.tekhn.
nauk, otv.red.; DRANITSYN, S.N., kand.tekhn.nauk, zam.otv.red.;
GOROBITS, V.A., kand.voyen.-morskikh nauk, red.; MAKSIMADZHI, A.I.,
kand.tekhn.nauk, red.; ROZHDESTVENSKIY, N.A., kand.tekhn.nauk, red.;
SYROMYATNIKOV, V.P., kand.tekhn.nauk, red.; LEBEDEVA, N.S., red.;
STUL'CHIKOVA, N.P., tekhn.red.

[Methods of testing the thermodynamic efficiency of marine diesel
engine power plants] Metodika teplotekhnicheskikh ispytaniy
dizel'nykh sudovykh ustanovok. Leningrad, 1962. 165 p. (Leningrad.
TSentral'nyi nauchno-issledovatel'skii institut morskogo flota.
Informatsionnyi sbornik, no.83/84. Tekhnicheskaya ekspluatatsiya,
no.18/19). (MIRA 16:10)

1. Nachal'nik otdela tekhnicheskoy ekspluatatsii sudovykh silovykh
ustanovok TSentral'nogo nauchno-issledovatel'skogo instituta morskogo
flota (for Yevreinov). 2. TSentral'nyy nauchno-issledovatel'skiy
institut morskogo flota (Alferova, Gol'denfon, Zinchenko, Korchagin,
Panov, Urbanovich, Fomenko, Yakovskiy, Lisin, Lyutov, Meyelov).

ALFEROVA, N.V., kand. tekhn. nauk

Measuring strains in the foundation of a low-speed engine.
Inform. sbor. TSNIMF no.96. Tekh. ekspl. mor. flota no.23:
70-74 '63 (MIRA 18:1)

ACC NR: AT6034793 (N) SOURCE CODE: UR/2914/66/000/042/0091/0099

AUTHOR: Alferova, N. V. (Candidate of technical sciences)

ORG: none

TITLE: Cause of failure of the antifriction layer of bearings

SOURCE: Leningrad. Tsentral'nyy nauchno-issledovatel'skiy institut morskogo flota. Informatsionnyy sbornik, no. 42(152), 1966. Tekhnicheskaya ekspluatatsiya morskogo flota voprosy nadezhnosti sudov i ikh silovykh ustanovok (Technical operation of the Merchant Marine; problems of reliability of ships and their power systems), 91-99

TOPIC TAGS: antifriction bearing, ship, bearing

ABSTRACT: Tests were made from November 1962 to November 1964 on merchant marine ships to determine the causes of failure of antifriction bearings. The stresses on bed plates of 10 engines were measured with close to 400 bonded strain gages. All measurements were made with the engines running. From these it was possible to formulate the basic laws, which were confirmed by calcula-

Cord 1/2

UDC: 621.436.822.015.001.4

ACC NR: AT6034783

tions of dynamic loads. It was main bearing failure. The vibration of the bed plates was found to be the main cause of bearing failure and was due to the action of inner unbalanced moments of the first order. A greater rigidity of structure, lighter weight of working parts and additional lubrication to improve the work of the bearings were suggested for extending bearing service life. Orig. art. has: 4 figures. [GC]

SUB CODE: 13/SUBM DATE: none/

Card 2/2

BOGDANOV, I.L., professor, zaveduyushchiy; SYTRONYATNIKOVA, V.M.; ALFEROVA,
P.A., glavnyy vrach.

Penicillin effect upon the streptococcal flora of the throat in scarlet
fever. *Pediatrics* no.2:8-13 Mar-Apr '53. (MLRA 6:5)

1. Kafedra infeksionnykh bolezney Sverdlovskogo meditsinskogo instituta
(for Bogdanov). 2. 3-aya gorodskaya detskaya bol'nitsa (for Alferova).
(Scarlatina) (Penicillin--Therapeutic use)

SYROMYATNIKOVA, V.M.; ALFEROVA, P.A., glavnyy vrach.

Bacteriologic and clinical characteristics of anginas. *Pediatrics* no.4:34-39
Jl-Ag '53. (MIRA 6:9)

1. 3-aya gorodskaya detskaya infektsionnaya bol'nitsa Sverdlovsk.
(Tonsils--Diseases)

ALFEROVA, T.D.

KHOCHULAV, A.G.; ALFEROVA, T.D.; POLOVSKIY, M.V., red.; TSNY, U., tekhn.
red.

[Russian - Adyge trade relations from 1793-1860; a collection of documents] Russko-adygeiskie torgovye svyazi 1793-1860 gg.; sbornik dokumentov. Maikop, Adygeiskoe knizhnoe izd-vo, 1957, 437 p. (MIRA 11:4)

1. Maikop. Adygeyskiy nauchno-issledovatel'skiy institut iazyka, literatury i istorii.

(Russia--Commerce--Caucasus, Northern)

(Caucasus, Northern--Commerce--Russia)

CHUDAKOV, K.P., kand. tekhn. nauk; VALOVA, L.S., inzh.; ALFEROVA, L.I., inzh.;
ALFEROVA, Ya.A.; PERGIN, L.; BODALOVICH, B.A., inzh.;
GONCHARENKO, V.T.

Prolong the life of excavators. Stroil. i dor. mash. 8 no.3:
8-14 Apr '63. (MIRA 18:5)

ALFEROVA, V.A.; RASKIN, I.M.

Xanthurenic acid and the amount of vitamin B₆ in the blood of patients with chronic hepatitis. Vop.med.khim. 8 no.1:20-23 Jan-F '62. (MIRA 15:11)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut vitaminologii Ministerstva zdravookhraneniya SSSR, Moskva.
(PYRIDOXINE) (XANTHURENIC ACID) (HEPATITIS, INFECTIOUS)

BREMER, S.M.; RASKIN, I.M.; ALPEROVA, V.A. ROGOVA, K.P.; FILIPPOVA, G.S.

Metabolism of vitamin B₆ and its effect in acute hepatitis.
Vop. med. khim. 11 no.1:22-27 Ja-F '65. (MIRA 18:10)

1. Klinicheskoye otdeleniye Ministerstva zdravookhraneniya SSSR,
Moskva.

BRENNER, S.M.; ALPEROVA, V.A.; PIPKO, A.S.; ROGOVA, K.I.; CHISTOKAYA, R.Ya.

Effect of some antibiotics on the metabolism of vitamins B₆, B₁₂,
PP and C chronic cholecystitis patients. Antibiots 9 no.7:661-667
J1 '64. (MIRA 16:3)

1. Klinicheskoye otdeleniye otdela po klinicheskuyu izucheniya
vitaminov Nauchno-issledovatel'skogo instituta vitaminologii,
Moskva.

ALFEROVA, V. B.

Antigenic Properties of Subcutaneous Dysentery Vaccines

Studied the antigenic properties of parenteral dysentery vaccines on subcutaneously immunized rabbits. (RZhBiol, No. 7, 1955)
Vopr. Krayevoy Patologii AN U.S.S.R. 3, 1953, 49-50

SO: Sum. No. 744, 8 Dec 55 - Supplementary Survey of Soviet Scientific Abstracts (17)

ALFEROVA, V.B.

Immunogenicity of subcutaneous dysentery vaccines. Report no.1. Vop.
krov.pst. no.4:21-27 '54. (MIRA 9:12)
(DYSENTERY—PREVENTIVE INOCULATION)

AL'FEROVA, V.B.

Immunogenicity of subcutaneous dysentery vaccines. Report no.2. Vop.
kresv.pat. no.4:28-32 '54. (MLRA 9:12)
(DYSENTERY-~~PREVENTIVE~~ INOCULATION)

USSR/Microbiology - Microorganisms Pathogenic to Humans and
Animals.

F-5

Aus Jour : Ref Zhur - Biol., No 3, 1958, 9951

(up to 78 and 86% survival of immunized mice).
However, the acquired properties were retained for only 1
year, after which the virulence markedly increased and the
strain's immunogenicity decreased. A considerable number
of variants were obtained, distinguished from the initial
strain by their ability to decompose sucrose.

Card 2/2

ALFEROVA, V.B.; BOGACHEVA, R.I.; KOROTKOVA, T.F.; MOKEYEVA, A.D.;
GEORGIEVSKAYA, N.A.; CHEKUSHIN, A.Ya.

Improvement of the technology for preparing polyvaccine. Trudy
TashNIIVS 6:43-52 '61. (MIRA 15:11)
(VACCINES)

ALFEROVA, V.B.; MOKEYEVA, A.D.; SAMOYLOVA, O.Ye.

Closed method of preparing casein-carbon agar. Trudy TashNIIVS
6:53-56 '61. (MIRA 15:11)

(AGAR--STERILIZATION)

ALFEROVA, V.B.; MOKEYEVA, A.D.; BOGACHEVA, P.I.; KOROBKOVA, M.V.

Reactor method of sterilizing a physiological solution. Trudy
TashNIIVS 6:57-59 '61. (MIRA 15:11)
(SERUM--STERILIZATION)

ALPEROVA, V.B.; MOKEYEVA, A.D.; BOGACHEVA, R.I.; KOROBKOVA, M.V.

Resistor method of diluting enteric vaccines. Trudy TashNIIVS
6:61-63 '61. (MIRA 15:11)

(VACCINES)

ALFEROVA, V.B.; BOGACHEVA, R.I.

Process for sterilizing the liquid nutrient medium in the "bottom"
production of enteric vaccines. Trudy TashNIIVS 6:65-69 '61.

(MIRA 15:11)

(VACCINES) (BACTERIOLOGY--CULTURES AND CULTURE MEDIA)

LEYTMAN, M.Z.; ALFEROVA, V.B.; KUZ'MINOVA, M.L.; SLAVINA, Kh.M.;
ZHDANKOVA, L.D.; MOKEYEVA, A.D.; BOGACHEVA, R.I.; GINZBURG, G.M.;
GOTGIL'F, M.M.; SHIRNOVA, T.T.

Study of the effectiveness of subcutaneous immunization
against dysentery with Chernokhvostov's alcohol vaccine.
Trudy Tash. NIIVS 5:59-71'62. (MIRA 16:10)
(DYSENTERY — PREVENTIVE INOCULATION)

ALYEROVA, V.N.
BC

Abstract: preparation of membranes from the natural black-earth humus. V. N. Alyerova and A. V. Khramov. *Int. J. Chem. Hum.* 1981, 7, 13-31). The membranes are strong, chemically strong electro-lysis and are suitable for softening H₂O and for desalinating vegetable oils.

R. T.

454.54.4 METALLURGICAL LITERATURE CLASSIFICATION

19

DESCRIPTION BY TRIPOLI FROM THE CENTRAL BLACK EARTH DISTRICT V. N. ALKHOV AND I. V. MUKOMUKHO
 Applied (from 1937-38-41) 7, 11, 14, 1944. This tripoli is a good absorbent for strong electrolytes such as HCl and NaOH, weak electrolytes such as CH_3COOH , a dye, such as methylene blue. This mineral gives good results in softening water and in bleaching vegetable oils.

A. A. Kuznetsov

MINERALOGICAL LITERATURE CLASSIFICATION

107 AIR AND SPACE		MA AND AIC CODES	
ALFEROVA, Y.N.		PROCESSING AND POSTPROCESSING MARKS	
<p>Silver Membrane, V. N. Alfirova (Aika Univ., Tomskaya, 1928; 18, (2), 213-225; C. Ak., 1928, 53, 1976). Strips of cadmium silver alloy 3x1.00 x 0.12 x 0.15-0.20 mm, had containing 16-24%, cadmium, were washed in alcohol, dried, weighed, and heated under a pressure of about 1 mm. The loss in weight, contraction, and volume of cadmium given off were determined after the specimens had been heated at various temperatures (650° - 720° C.) for various times up to 200 hrs. The maximum loss in weight was found to be accompanied by the greatest contraction and volume of gases. The latter increased greatly with increase in temperature. The membranes obtained in this manner were impenetrable to gases in all cases. - N. B. V.</p>			
BND 554 METALLURGICAL LITERATURE CLASSIFICATION		FORM 505176	
RESEARCH PROGRAM		CLASSIFICATION	
SUBJECT INDEX		CLASSIFICATION	

ALFEROV, V. P.

THE PHYSICAL-CHEMICAL PROPERTIES OF AQUEOUS SOLUTIONS OF AMMONIUM PENTABORATE. (S. M. Alferov and N. N. Khitrova. *Acta Univ. Tverensis* (U. S. R. R.) II, No. 3, 7-14 (1980); Khim. Repts. Zhur. 1980, No. 2, 10. The solubility curve of $\text{NH}_4\text{B}_5\text{O}_{14}$ (probably $\text{NH}_4\text{B}_5\text{O}_{14} \cdot 9\text{H}_2\text{O}$) between 0° and 40° has no break. This would indicate the formation of other hydrates. $\text{NH}_4\text{B}_5\text{O}_{14}$ easily forms strongly supersaturated solns. The dependence of the velocity of formation of crystals on supersaturation, temp. and mixing of the solns. was investigated. The elec. cond. and pH of said pentaborate solns. were also studied at 20-40°. The solns. have pH 6.0-7.0. W. R. Hentz

AND U.S. METALLURGICAL LITERATURE CLASSIFICATION

CLASSIFICATION	CLASSIFICATION	CLASSIFICATION	CLASSIFICATION
1	2	3	4
5	6	7	8
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13	14	15	16
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49	50	51	52
53	54	55	56
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61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

ALFEROVA, V. N.

14

Boiler-scale prevention by tripoli of the Voronezh district. V. N. Alferova and T. V. Mironenko. *Acta Chem. Technol. (U.S.S.R.)* No. 1, Sect. Chem., 108-110 in English, 115 (1969). The tripoli decreased the scale formation 80-95%, decreased permanent and temporary hardness of water, decreased the amt. of previously formed scale and softened the deposited scale. However, continuous evaporation of water caused partial deposition of tripoli on the scale. Preliminary experiments using tripoli on the radiators of tractors gave promising results.

A. A. Polozov

434.34.4 METALLURGICAL LITERATURE CLASSIFICATION

LIPOSOLES, V.P., SHCHERBA, I.I. (Soviet Union, U.S.S.R.)

Determining relation and structure in boron hydrides.
Zhurnal. (Ukr.) no.4:68-70 (1963). (Ukr.) 17:63

ALFEROVA, V.M. [Alf'crova, V.M.]; SERIKOVA, L.I. [Sier'ykova, L.I.]

Complexometric determining of sulfates in the presence of calcium and magnesium. Khim. prom. no.4:69-70 Q-D '64.

(MIRA 18:3)

27.1220

39461

S/241/62/007/001/003/006
1015/1215

AUTHORS: Nivinskaya, M. M., Alferova, V. P. and Rogova, K. P.

TITLE: Effect of therapeutic doses of ionizing radiation on the vitamin B₆ and B₁₂ content in blood serum

PERIODICAL: Meditsinskaya radiologiya, v. 7, no. 1, 1962, 40-45

TEXT: A study of the effect of radiation upon the vitamin B₆ content in blood serum was carried out on 63 patients. The data obtained were correlated with the age of the patients, the site and type of tumor, the histological structure of the tumor, the type, method and dose of irradiation. Vitamin B₁₂ was determined in the blood serum of 60 patients. The authors found a statistically significant increase in Vitamin B₁₂ content, an increase which depends upon whether X or Co⁶⁰ irradiation is used. The role of the source of the radiation and the necessity for further studies of the effect radiation upon the function of the liver are discussed. There are 6 tables and 2 figures.

SUBMITTED: May 5, 1961

Card 1/1

ALPEROVICH, Y. N.; KUZNETSOVA, I. V.

Condition of the peripheral vessels in persons working on the
cyclotron. Med. rad. 7 no.12:32-37 D'62. (MIRA 16:10)

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